What is claimed is:

1. A method for operating an arrangement for comminuting scrap material, comprising the steps of:

providing a supply device (1) for the scrap material to be comminuted;

providing a comminution machine (2) with at least one motor-driven rotor (2.2) horizontally supported in a housing (2.1) having an ejection door (2.1.1.1) and including comminution tools (2.2.1) and drive means;

providing a power controller and means for protecting the arrangement from scrap coarse, heavy or hard parts;

inputting values of the motor output, rotation speed of the rotor, the motor temperature and motor bearing temperature into a control device (4) and allowing the value to be used by the control device (4) for controlling and regulating the supply of the scrap material;

providing technical means (4.5, 4.6, 4.7) in the region of the housing (2.1) for ejecting the coarse, heavy or hard parts.

2. The method according to claim 1, further comprising a step of

inputting the values of the height of the scrap material flow supplied to the comminution machine (2) into the control device (4) for further controlling and regulating the supply of the scrap material.

3. The method according to claim 2, wherein the regulating the comminution process, at least one mechanical adjusting element (2.1.2) is used in the housing (2.1) for changing the geometry of the interior space of the housing (2.1).

4. The method according to claim 1, wherein the values inputted in the controller device (4) include vibration values of the comminution machine (2), from which a vibration pattern is evaluated.

5. The method according to claim 4, wherein the vibration pattern comprises vibration amplitude and frequency, used for recognizing coarse, heavy or hard parts in the scrap material and for controlling an ejection and for interrupting and starting the supply of the scrap material.

6. The method according to claim 1, wherein the values representing an increase of the pressure against the ejection door (2.1.1) in the housing (2.1) are inputted in the control device (4), evaluated and used for recognizing coarse, heavy or hard parts in the scrap material and for controlling ejection of coarse, heavy or hard parts and for interrupting and starting the supply of the scrap material.

7. The method according to claim 2, wherein the values of the motor temperature and motor bearing temperature, the motor output, the rotor rotation speed and the height (h) of the scrap material flow (3) supplied to the comminution machine (2) are used by the control device (4) for controlling the speed (C_1, C_2) of a supply belt (1.1) and a forced loading (1.2), respectively, for the scrap material.

8. The method according to claim 2, further utilizing the step of using software for an operation monitoring system for controlling and regulating the supply of the scrap material based on measured values for the control device (4) of the motor output, the rotor rotation speed, the motor temperature and motor bearing temperature and the height (h) of the scrap material flow (3) supplied to the comminution machine (2), and for controlling the ejection of coarse, heavy or hard parts in the scrap material from the values measured for the control device (4) on the comminution machine (2), and for regulating the comminution process in the housing (2.1) by way of a mechanical adjusting element (2.1.2) for changing the geometry of the interior space of the housing (2.1).

9. An arrangement for comminuting scrap material, comprising

a supply device (1),

a comminution machine (2) with at least one rotor (2.2), which is driven by a

motor (2.3) and horizontally supported in a housing (2.1) having a material inlet and an material outlet, and which includes comminution tools (2.2.1) and drive means and control means and means for protecting the installation as well as an ejection door (2.1.1.1) for ejecting coarse, heavy or hard parts, wherein a control device (4) for controlling the supply device (1) and at least one measuring element (4.5) which interacts with the housing (2.1); the control device (4) being connected to the measuring element (4.5) for ejecting coarse, heavy or hard parts.

10. The installation according to claim 9, wherein at least one adjusting element (2.1.2) is arranged in the housing (2.1) for changing the geometry of the interior space of the housing (2.1).

11. The installation according to claim 9, wherein the supply device (1) comprises a supply belt (1.1) and a forced loading (1.2).

12. The installation according to claim 9, wherein the control device (4) is connected with a first measurement transducer (4.1) for measuring the motor output (N), with a second measurement transducer (4.2) for measuring the motor temperature (T_1), with a third measurement transducer (4.3) for measuring the motor bearing temperature (T_2) and with a fourth measurement transducer (4.4) for measuring the height (h) of the scrap material flow (3) supplied to the comminution machine (2), and that at least one connection exists from the control device (4) to the supply device (1) for controlling the speed of the supply device (1).

13. The installation according to claim 9, wherein the at least one measuring element (4.5) is a vibration sensor (4.6) connected with the control device (4), wherein the control device (4) is connected with a drive element (2.1.1.1) for controlling the ejection door (2.1.1) on the housing (2.1).

14. Installation according to claim 9, wherein at least one measuring element (4.5) is a pressure sensor (4.7) connected with the control device (4), wherein the control device

(4) is connected with the drive element (2.1.1.1) for controlling the ejection door (2.1.1).

15. The installation according to claim 9, wherein the adjusting element (2.1.2) for changing the geometry of the interior space in the housing (2.1) is a component, which provides a slope to a corner dead space (2.1.3) located above the ejection door (2.1.1) and extending to the upper cover of the housing (2.1).

16. The installation according to claim 9, wherein the ejection door (2.1.1) is supported by a shear bolt with a rated breaking point, wherein the rated breaking point is sized so that the coarse, heavy or hard parts can pass through the ejection door (2.1.1) to the outside as a result of a built-up pressure.